

REMARKS

Claims 1 and 6-18 remain in this application. Claims 1 and 6-18 are rejected. Claims 2-5 are previously cancelled. Claims 1 and 12 are amended herein to address matters of form unrelated to substantive patentability issues.

Claims 1 and 6-18 are rejected as indefinite under 35 U.S.C. § 112, second paragraph, for failing to particularly point out and distinctly claim the subject matter of the invention as a result of informalities stated in the Office Action with regard to providing antecedent basis for the recitation of “the setting values” in claims 1 and 12. The claims are amended to clearly introduce “setting values” in the following clause as indicated amended:

a setting device accepting a setting operation ~~[[of]]~~ inputting
setting values setting a predetermined parameter defined as an item
to give an influence on an ease of turning said moving body by a
user[.]

Other amendments are effected ensuring proper antecedent bases for other recitations. Therefore, reconsideration of the rejection of claims 1 and 6-18 and their allowance are earnestly requested.

The applicant and applicant's attorney appreciate the Examiner's granting of the telephone interview conducted on April 30, 2004, and extend their thanks to the Examiner and his supervisory examiner for their time and consideration. During the interview it was explained why the independent claims distinguished over the combination of the D'Andrade and Collier references. Details of the interview discussions are presented below in relation to the pertinent subject matter of the Office Action. As indicated in the Interview Summary, an agreement was reached that the Collier reference did not provide a teaching of storing data relating a plurality of relationships between operation of a throttle, a velocity ratio, and a steering portion based on setting values for a predetermined parameter. While the D'Andrade reference taught steering a vehicle by controlling a velocity ratio, the control of the velocity ratio was hardwired and did not interrelate with the throttle input. The Office Action cited the Collier reference for teaching use of a computer 150 assumed to store information. However, in the Collier reference the computer merely determined what sound to output based upon sensed conditions. It did not vary the control of the velocity ratio with reference to the throttle. This is elaborated upon below.

It was then agreed that a response presenting the above argument would be entered and the prior rejection effectively withdraw. The Examiner indicated a different application of art may result in the next Office Action. In order to be

fully responsive, applicants have amended claims 1 and 12 to address the §112, second paragraph rejection. However, applicants indicated that the present claims will be further amended or replaced in a supplemental amendment to more clearly address the invention. It is requested that the Examiner contact applicant's attorney if such a supplemental amendment has not be received when this response is acted upon.

With regard to the above noted distinctions, it is believe that the following detailed discussion will aid in appreciation of the invention. A predetermined parameter defined as an item to give an influence on an ease of turn, that is, the turning characteristics of the moving body can be set by a user inputting setting values, and the correspondence relationship between the operation amount of the steering portion and the velocity ratio can change in conjunction with the change of the value set by the user. Therefore, the user can adjust the turning characteristics relating to the operation of the steering portion according to his or her taste.

Additionally, as the operation amount of the throttle portion increases, the bigger the velocity ratio gets, meaning it gets closer to 1.0 resulting in reduced velocity difference between drive sources. It is thus possible to prevent the occurrence of extreme behavior by making the velocity ratio not too small in a high velocity situations of the moving body. When the velocity of the moving body is

low the turning characteristics are improved by changing the velocity ratio to the smaller side, that is, providing a greater difference in velocities.

For example, the relationship between the operation amount of the throttle portion and the velocity ratio in accordance with an operation amount of steering portion at a predetermined reference value is shown as a curving line in FIG-12A. In the particular embodiment the curving lines determine the maximum limit on the velocity ratio which is then applied in the graph of Fig. 12B. The curving lines in Fig. 12 A are different from each other according to the ΔSUS , represented in the claims as setting values, the value of which can be set by the user. The reference value can be set, for example, at the maximum value of the operation amount of steering portion. In this case, each of the curving lines of FIG.12A shows the relationship between the velocity ratio to be generated when the steering portion comes to the maximum portion from the neutral portion and the operation amount of throttle portion. Moreover, the more the velocity of moving body increases, the more each of the curving lines in FIG.12A increases toward 1.0 thereby limiting a possible amount of velocity difference. That means, in the case where the operation amount of steering portion is fixed to the maximum value, the more the operation amount of throttle portion increases, the closer the velocity ratio to be generated between a pair of motors is limited to 1.0 (the direction in hard to turn). As the result, enough difference between the velocities of the two motors is

generated in low velocity area. On the other hand, in high velocity area, the extreme behavior, such as spin, is avoided by limiting the power of a turn. As mentioned before, the invention according to the claim 1 not only changes the degree for increase and decrease of the velocity ratio according to the set situation of the parameter, by modifying the velocity ratio according to the set situation of the velocity of the moving body, poor performance can be avoided by making the relationship between the steering portion and the velocity ratio changeable.

It is assumed that the relationship between the steering portion and the velocity ratio is changed according to the user's operation without considering the operation amount of throttle portion. When the user sets so that the velocity ratio is changed a lot comparing to the operation amount of steering portion, in high velocity area, a turning characteristic which is hard to handle is generated because of too small velocity ratio (large velocity difference). On the other hand, when the user sets so that the velocity ratio is changed with respect to the operation amount of steering portion, as the turn radius in low velocity area becomes large, it is hard to turn in a small radius. On the other hand, in the case the operation amount of throttle portion is considered as in the present invention, the mentioned problems can be avoided as mentioned before.

On the other hand, D'Andrade et al (hereinafter "Andrade") discloses only two switches to remote control a toy vehicle having a pair of motors (a right motor

and a left motor) (FIG.5-9). According to the operation of each lever of the switches, different current is provided to the motors (FIG. 10-14). Therefore, the moving body can stop, go forward, turn, and the like.

Calvin only discloses an apparatus for remote controlling a vehicle having a pair of motors, which are controlled respectively (claim 1, FIG.5, FIG.6).

Collier only discloses, as for the turning of a moving body of a remote control system, a way to generate a real sound "SCREECH" when the moving body turned (column 14 lines 13-37) .

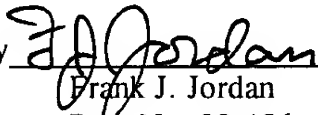
All of Andrade, Calvin and Collier fail to disclose and teach about the mechanism to control the relationship between the velocity ratio and the operation amount of the throttle portion when the steering portion reaches a predetermined reference value. Furthermore, each of them discloses nothing about controlling the turning characteristics of the moving body.

Thus, it is respectfully submitted that the rejected claims are not obvious in view of the cited references for the reasons stated above. Reconsideration of the rejections of the rejected claims and their allowance are respectfully requested.

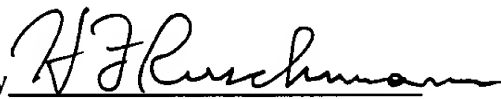
Applicant respectfully requests a three month extension of time for responding to the Office Action. Please charge the fee of \$950.00 for the extension of time to Deposit Account No. 10-1250. A Notice of Appeal accompanies this response to ensure pendency of the present application.

In light of the foregoing, the application is now believed to be in proper form for allowance of all claims and notice to that effect is earnestly solicited. Please charge any deficiency or credit any overpayment to Deposit Account No. 10-1250.

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enc: Notice of Appeal; and Replacement drawing sheets of Figs. 1, 3 and 10.